

MANVI GUPTA

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EDUCATION

RWTH Aachen University, Germany <i>RWTH Exchange Worldwide Scholarship Recipient (DAAD)</i>	October 2019 - February 2020 Overall Grade: 9.25/10
Indian Institute of Technology(IIT) Mandi <i>Bachelor of Technology (B.Tech.)</i> <i>Computer Science & Engineering</i>	August 2017 - July 2021 CGPA: 9.24/10 <i>(Gold Medal Recipient for Academic Excellence)</i>

WORK EXPERIENCE

ADOBE SYSTEMS INDIA

Machine Learning Engineer 3 *December 2025 - Present*
Generative AI & Sensei (Firefly team)
Redesigning cloud resource access to strengthen security, enforce least-privilege, and protect the AI platform from unauthorized threats.

Software Engineer III (Computer Scientist I) *February 2025 - November 2025*
Generative AI & Sensei (Firefly team)
Worked on container snapshotting for training jobs ensuring a seamless user experience and optimised resource utilisation.

Software Engineer II *February 2023 - January 2025*
Generative AI & Sensei (Firefly team)
Designed an in-house scheduler on top of the Kubernetes native scheduler to handle the bulk requests (jobs) fairly with minimal resource wastage.

Software Engineer I *July 2021 - January 2023*
Cloud Technology Unit (Sensei & Search Team)
- Implemented and managed *DevBox*, the foundational component of Adobes in-house ML Training Platform, enabling seamless research and development.
- Developed a cost analytics service to track and optimize Adobe-wide ML resource expenditures.

Product Intern *May 2020 - July 2020*
Cloud Technology Unit (Sensei & Search Team)
Built a Machine Learning pipeline on a distributed Kubernetes Platform & developed a POC for MLflow & Kubeflow capabilities.

Received *Pre-Placement Offer* for a full-time role as Member of Technical Staff based on excellent performance during the internship.

PROJECTS

MUTUAL INFORMATION ESTIMATION IN DNNs <i>Major Technical Project</i>	2020 - 2021 <i>Dr. Samar Agnihotri (IIT Mandi)</i>
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- Implemented the Ensemble Dependency Graph Estimator (EDGE) for Scalable Mutual Information Estimation and its variation. Compared the results with that obtained from the HSIC criterion.
- Long term goal is to compare different algorithms for the closest estimate of mutual information across hidden layers in a Deep Neural Network and prove/disprove the Information Bottleneck Principle.

OPTIMIZING FUNCTIONAL LANGUAGE COMPILERS

May 2021 - June 2021

Program Analysis

Dr. Manas Thakur (IIT Mandi)

- Performed a detailed survey on the optimization techniques used by functional language compilers.
- Compared and analysed them for their extent of optimization and the associated overheads.

CALL TREE REVERSAL

October 2019 - February 2020

Using Mixed Integer Programming

Prof. Dr. Uwe Naumann (RWTH Aachen)

- Learnt about checkpointing Function Call Trees using Algorithmic Differentiation that could help to increase program efficiency. Used GUROBI optimizer

TECHNICAL STRENGTHS

Computer Languages	C, C++, Python, Java, GoLang, Scheme(Lisp), Haskell
Machine Learning	Keras, Tensorflow, PyTorch, SciKit-Learn, MLflow
Familiar Technologies	Kubernetes, Docker, MySQL, MPI, Git, Spring Boot, HTML, Flask

POSITION OF RESPONSIBILITY

Founder Coordinator, ACM-W Chapter IIT Mandi

Chairperson, August 2019 - August 2020

- Officially set up the new community. Guided girl students about opportunities in the field of computing and connect the students to women leaders of the world.

Undergraduate Teaching Assistant

- *Paradigms of Programming (Feb. 2021 - June 2021)*
- *Data Science III (Sep. 2020 - Dec. 2020)*
- *Information & Database Systems (Feb. 2020 - Sep. 2020)*

CONFERENCES & WORKSHOPS

PyTorch Conference Speaker

San Francisco, California

The Linux Foundation

Oct. 2025

- Invited to present at PyCon 2025 after acceptance of my proposal, “*Scheduling ML Jobs at Scale*”, showcasing expertise in large-scale distributed training systems and ML platform optimization.

ACM India Summer School

IIIT Delhi

Cyber Security and Data Analytics

July 2019

- Learnt about security concerns on Social Media, and Cryptographic techniques used in SSL.
- Also got introduced to Natural Language Processing, as a method of encryption-decryption.

ACADEMIC & EXTRA-CURRICULAR ACHIEVEMENTS

- *Adobe Spot Award* winner for outstanding performance in December 2022.
- Overall rank 3 in B.Tech class of 2017-2021, among all the departments.
- Winner of *Hacking the Google Maps*, online competition by Heuristics IIT Mandi, in May 2020.
- Runner up in Astronomy Club Hackweek-2018 held at IIT Mandi.
- Winner of Intra College Diwali Photography Competition 2017.
- First, among the 7 teams from the college in Flipkart GRiD Machine Learning challenge.
- Represented IIT Mandi at Inter IIT Cultural Meet 2017, at IIT Kanpur.
- Ranked in All-India Top 1% (amongst 11,86,000 candidates) in JEE Mains 2017 and Top 2.8% (amongst 1,59,540 candidates) in IIT-JEE Advanced 2017